

REMARKS

The Specification

A replacement abstract is attached to this reply.

The Rejections Under 35 USC § 112, first paragraph

The Office Action alleges that the specification is only enabling for $C(CF_3)_4$, and not for other compounds of the formula $A(R)_4$. The rejections appear to focus on the enablement of the preparation of the claimed compounds.

The rejection is untenable in view of the facts of record, including the prior art rejections used in the present case.

For example, the Office Action alleges that the “prior art of record lacks any description how to make a trifluorosilicide or a trifluoromethylene of a 4-valent metal.”

Yet, the Office Action in the prior art rejections points to US ‘424 teaching compounds by general formula $Z(CF_3)_n$, and points to examples teaching the preparation of $Sn(CF_3)_4$ (example 1), $Ge(CF_3)_4$ (example 3), etc., including the teaching of tetrakis(trifluoromethyl)platinum and tetrakis(trifluoromethyl)uranium.

The Office Action also points to US ‘528 teaching compounds of formula R^1_4Si , including the compound $(C_6F_{13}C_2H_4)_4Si$ (column 7, line 35 and column 8, line 51), $(C_2F_5(C_2F_4)C_2H_4)_4Si$ (example 1), etc.

Applicants request clarification of the allegation regarding the state of the prior art.

The Office Action also alleges that claims 22-27 include 4-valent elements that “include elements, which are generally not known to exist as 4-valent elements and further elements that have multiple valent values, e.g., Te^{4+} and Te^{6+} .”

Applicants attach a list of valences for all elements from chemistry.about.com, which clearly indicates that each and every element recited in the claims as a 4-valent element is known to have 4 valences.

Additionally, whether any of the elements can have more than a single valence value is immaterial. One of ordinary skill in the art would know that to make a compound requiring a 4-valent Te for example, irrespective of whether it may have other valences. Merely there being the possibility of a Te^{6+} does not mean that the use of Te^{4+} is not enabled.

In view of the erroneous allegations, this enablement rejection cannot be maintained. One of ordinary skill in the art based on what is known in the art as demonstrated by, e.g., the art used in the prior art rejections, in combination with the disclosure in the specification

would know how to proceed in making the claimed compounds.

The Rejections Under 35 USC § 112, second paragraph

The Office Action rejects the claims because they do not set forth the temperature at which the molecules are a liquid. This rejection is untenable. The claims clearly recite that a liquid is at issue. One of ordinary skill in the art knows what a liquid is even without measuring its temperature. Thus, specifying the temperature does not provide any additional clarity to what is being claimed.

Regarding the valence of the elements not being 4, please see the above comments.

The Rejections Under 35 USC § 102 and § 103

The Office Action points to two references, i.e., US '424 and US '528, and alleges that these references teach molecules of the present invention.

However, neither reference teaches or suggests a liquid as claimed undergoing radiation of the mentioned wavelength in an effective amount for liquid immersion lithography. Thus, the claims are not anticipated or obvious.

Applicants further emphasize that various advantages can be achieved with liquids having a high degree of symmetry in liquid immersion lithography. As stated on page 2, paragraph 2 of the description, various contributions add to the scattering of light in liquids. These scattering contributions are also of significance for the scattering of light in liquid immersion lithography. According to the application it is the contribution to depolarization of the exposing light that is to be reduced. Such contributions are of high importance in particular in case polarized light is used for exposure in lithography. According to the application such depolarization contributions are reduced substantially by using a liquid according to the claims (see, e.g., page 6, paragraph 4 of the description).

Reconsideration is respectfully requested.

New Claim 31

New claim 31 is directed to a liquid immersion lithography system not taught or suggested by the cited prior art. Allowance of this new claim is respectfully solicited.

The Commissioner is hereby authorized to charge any fees associated with this response or credit any overpayment to Deposit Account No. 13-3402.

Respectfully submitted,

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